

Claims

1. A multifunctional valve for the fuel tank of a motor vehicle, composed of a housing which is attached to the roof of a fuel tank, dipping at least partially therein and has a vertical axis, of a float which is guided in the direction of the axis, and of a closing element which is attached to said float, wherein

- a) the closing element (22) can be moved to a limited degree with respect to the float (16) in the axial direction (49), is acted on by a first spring (27) and has a small pressure equalization hole (25),
- b) an intermediate element (30) is provided on the float (16) and above the closing element (22) and can move to a limited degree with respect to the float (16) in the axial direction and is acted on by a second spring (35),
- c) the intermediate element (30) has a plate (32) with an outermost edge, which plate has a first through-flow opening (36) whose edge (37) forms a first seat for the closing element (22) located below it, and
- d) a seat plate (38) is arranged above the intermediate element (30) and pressed downward against a second seat (43) by a third spring (39), and has a second, larger through-flow opening (40) whose edge (41) forms a second seat for the intermediate element (30).

2. The multifunctional valve as claimed in claim 1, wherein the float (16) rests on a fourth spring (17) whose force is smaller than the force of gravity acting on the float (16).

3. The multifunctional valve as claimed in claim 2, wherein the force exerted on the float (16) by the third spring (39) can be set by adjusting housing floor (8).

4. The multifunctional valve as claimed in claim 1, wherein the closing element (22) is composed of a conical closing part (23) and an outer casing part (24) which has first hooks (26) which interact with first stops (28) on the float (16) in order to limit the movement in the axial direction.

5. The multifunctional valve as claimed in claim 1, wherein the intermediate element (30) has second hooks (33) which are directed downward from the plate (32) and interact with second stops (34) on the closing element (22) in order to limit the movement in the axial direction.

6. The multifunctional valve as claimed in claim 1, wherein the seat plate (38) has an outermost edge (42) which is pressed by the third spring (39) onto a third seat (43) which is fixed to the housing.

7. The multifunctional valve as claimed in claim 1, wherein the float (16) has a central hole which ends in a space (51) formed between the float (16) and the closing element (22), and in which space there is a ball (19), and in

that the closing element (22) has a hole (25) above the ball (19).